

# Feeding Show Horses and Ponies

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Whether your horse is an Arabian, a Quarterhorse, a hack, eventer or a pony and no matter what the discipline, you want to enhance their natural beauty and keep both the inside and the outside healthy.

**Achieving physical and mental fitness requires an orchestrated combination of nutrition and training but, regardless of the equestrian pursuit, 'finish' is important.**

What determines 'finish' is a combination of skin, coat and condition. Optimum body condition varies between disciplines - competition horses requiring less 'cover' than show horses and ponies.

***Ponies are not just small horses*** - Although horses which stand less than 148cm or 14 hands are generally labelled as 'ponies', to a zoologist, 'ponies' are those small horses which evolved from the wild euids that inhabited the cold, harsh Isles of Great Britain some 40,000 years ago. Freezing conditions selected for thicker coats, an insulating layer of subcutaneous fat and the ability to withstand periods of poor nutrition and sub-zero temperatures. To survive extremes in temperature and lack of food over winter, ponies developed metabolic and physical characteristics different to those found in the Arabian and Thoroughbred rootstock that evolved in warmer regions of Africa and Asia.

Ponies, regardless of height, need less feed to maintain themselves compared to horses; have altered hormone responses to eating; are pre-occupied (obsessed!?) with eating and have 'shunts' in the blood vessels in their feet - periodic opening and closing prevented excessive cooling while maintaining blood flow.

These features favoured survival, but they are also the reasons why ponies are more susceptible than horses to diseases such as hyperlipaemia and laminitis.

**From a veterinary perspective, there are 2 sorts of ponies: ponies that have foundered and ponies that are going to founder!**

'Laminitis' is an inflammation of the laminae in the hooves. Laminae are the folds of tissue on the pedal bone and the inside of the hoof wall that nestle into each other like 2 sheets of corrugated iron. This bond supports the weight of the horse. When the laminae become inflamed and weakened the attachments between the hoof wall and the pedal bone tear. Free from its anchoring, the pedal bone moves downwards.

'Founder' describes a foot in which the pedal bone has moved. Ponies do not need to be overweight to founder and once they have had an episode they are more susceptible to further episodes.

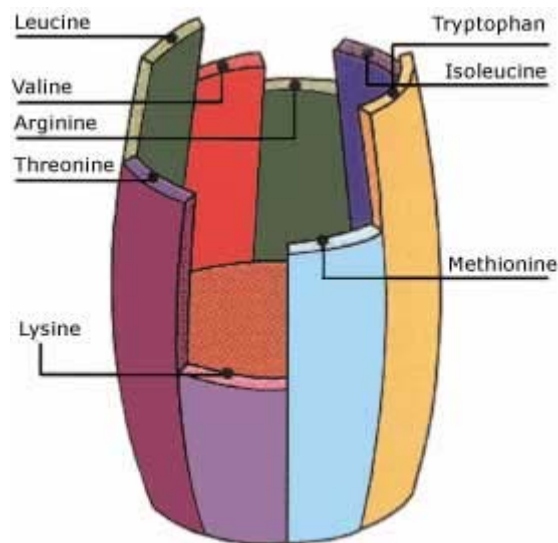
When caring for a pony with laminitis, both veterinary and farrier monitoring are required. Nutrition must provide the proteins, vitamins and minerals necessary for the laminae to heal. Energy should be restricted and protein must be well digested in the small intestine to provide essential amino acids. Raw or poorly digested feeds increase the risk of laminitis whereas Omega 3 supplements have a protective effect. Do not allow access to pasture at night, as plant sugar levels are higher than in the morning.

Rest is essential to prevent overloading and further tearing. Ponies should not be allowed to become overweight because the weight of the horse places enormous stress on the weakened lamina.

Even when the weight reduction is necessary, ponies should not be starved, as hyperlipaemia can occur when feed intake is suddenly reduced. Any circumstance where feed is limited, such as heavy rain, lameness, prolonged travelling or being bottom of the pecking order, can trigger hyperlipaemia.

**Urgent veterinary attention should be sought for any pony which shows weakness, loss of appetite, depression and/or muscle tremors.**

**Body composition** - whether horses develop a topline of muscle or fat, is affected by age, workload and nutrition. As every horse owner knows, to treat all horses alike is to foster problems. Whether muscle or fat is laid down depends on age, type of work and the amino acid composition of the protein in the feed. Each protein in the body has its own recipe of amino acids. Think of each amino acid as a wooden slat in an old-fashioned water (beer or wine, if you prefer) barrel.



The barrel can only hold water to the level of the shortest slat. Similarly, the amount of protein the body can build is limited by amino acid deficiencies.

So regardless of the % protein in the feed, if there is not enough of each amino acid then body protein cannot be made. The unused amino acids are converted to fat and stored under the skin.

The horse will lay down cover (fat) instead of building muscle and bone.

**Feed processing techniques** affect the availability of protein. Dry-extrusion relies on high temperatures and shearing forces. In the absence of steam, these two forces can damage lysine and other amino acids in the protein. Essential amino acids are also rendered useless when the feed is not easily digested. Proteins that escape digestion in the small intestine pass through to the caecum where they are degraded to ammonia.

Most raw feeds are not well digested and old-fashioned processing methods such as boiling, grinding and pelleting do little to improve digestion, and can damage nutrients. Boiling barley improves digestibility to only 48%. The most advanced feed processing methods are micronization and steam-extrusion.

**Micronization and steam-extrusion combine and advance the time-honoured practices of grinding and cooking grains.**

The difference is that temperature, moisture, pressure and cooking time are all carefully controlled - releasing natural goodness and improving digestibility to over 90% - without damaging nutrients.

**Grains:** Although traditional feed for horses, raw grains were first used in the cold climates of England and Ireland and are not necessarily appropriate for hot and/or humid countries. In addition, equestrians have long known to process feeds - boiling and grinding to improve digestion. But, even if crushed, cracked or rolled, over 50% of the energy in oats, 72% of corn and 79% of barley escapes digestion in the small intestine and is converted to acid, heat and gas in the caecum.

As well as not being able to use this energy for exercise and muscle development, the heat adds to heat stress, the acid contributes to tying up, laminitis, colic and diarrhoea; the ammonia to fatigue, respiratory conditions and diarrhoea and the gas can lead to spasmodic colic. Other methods such as pelleting have been found to increase the risk of choke, ulcers and colic and decrease calcium and magnesium absorption.

Show horses and ponies that are training, travelling and competing have increased protein and energy requirements. Steam-extruded and micronized feed is the safest way to provide for these requirements.

**When feed is processed by steam-extrusion, over 90% is digested in the small intestine - increasing the release of essential amino acids and cool energy and protecting against acid, ammonia, heat and gas production.**

**Energy and protein levels are important.** If the diet is low in energy, dietary protein will be converted to energy and this can result in insufficient protein being available for muscle and skin health. In addition, excess heat is produced when protein is converted to energy and as well as poor body condition, this can cause excessive sweating and heat exhaustion - especially in warmer climates. If protein intake is above requirements or the protein is not well digested, ammonia and urea levels rise, increasing water requirements and ammonia levels. Ammonia and urea cause respiratory irritation, increased risk of gastrointestinal diseases, nervous irritability and disturbances to energy production.

**Dietary imbalances** can decrease the production of natural skin oils and affect the structure and strength of skin and hooves.

**Other diet-related health risks** come from feeds produced by mills that also make feeds for other species.

**Many compounds in cattle, pig, poultry, dog and cat food are toxic to horses and include animal by-products and offal.**

Cases of cross-contamination have occurred when milling equipment is used to produce feed for several species

<b>NUTRIENT IMBALANCES WHICH AFFECT SKIN AND COAT CONDITION</b>	
Selenium excess or deficiency	Rough hair, loss of mane and tail, abnormal hoof growth
Iodine excess or deficiency	Rough hair and patchy hair loss
Vitamin E deficiency	Rough hair
Zinc deficiency excess	Hair loss and thickened skin damaged teeth, rough hair and weight loss
Copper deficiency	Yellowing of the coat
Molybdenum excess	Induced copper deficiency

Salt excess	Dry, harsh coat
Protein deficiency	Long, scruffy coat
Vitamin A excess or deficiency	Long, scruffy coat

## HEALTHY SKIN

Grooming is the single most effective way to maintain a healthy hair coat.

**Shampoos:** Oils produced by the skin act to smooth and protect the hairs, repelling water and inhibiting the growth of harmful microorganisms. The use of harsh shampoos should be avoided as they strip the natural oils and upset the natural acid balance of the horse's skin. Be smart choosing shampoos - 'human-grade' or 'salon-quality' are not best for horses. Many human shampoos and soaps are alkaline, with a pH up to 11. Horse's skin is more acid, pH 4.5 to 6.

Alkaline shampoos will disturb this protective acid shield and make the skin more prone to invasion by bacteria and parasites, and can cause itchiness.

However, no amount of grooming or conditioning will help if the skin and hair aren't healthy. Deworming once a week for 3 weeks with Ivermectin can get rid of 'worm hairs' - those firmly attached long hairs on the chest and under the neck. This treatment is also helpful for rain scald, thrush, greasy heel, lice and other immune-related skin diseases.

GROOMING PRODUCT INGREDIENTS	FUNCTIONS
Citronella, pyrethrins and cedar oil	Insect repellent
Vitamin E, panthenol (vitamin B5), silk proteins	Moisturizers
Petrolatum and mineral oil	Emollients
Silicone (from the mineral silica)	Repels dust and dirt
Witch Hazel	Relieves itching
Thymol, eucalyptus, tea-tree oil	Treat minor skin irritations
Chamomile and verbena	Natural, non irritating fragrances
Alcohol-base	Can cause excessive dryness
Soap and shampoo which are alkaline, pH-balanced or pH-neutral	Generally not good for horses
Environmentally friendly products	Does not contain phosphate, chlorine or dyes

**Lumps and bumps:** There are numerous causes of skin lumps, including clipping, insect bites, allergies to washes, chemicals or pollens; internal parasites, vaccinations or reactions to drugs such as penicillin. Veterinary examination is important. Allergies to proteins can produce round elevated areas on the skin. Feeds most frequently causing allergic reactions include potatoes, wheat, oats, barley, bran and chicory. Sudden accumulation of fluid under the skin may be an allergy to clover in bloom or fishmeal.

Feeds containing fish meal or other animal by-products should be avoided. Feeds made in mills that also produce for other species carry a risk of botulism, salmonella and contamination with antibiotics and growth promotants that are potentially lethal to horses.

**Oils:** Adding at least 50ml of oil a day or using an oil-enriched feed usually improves skin and coat health within 3 weeks. Oils also play a vital role in the immune system and sensitivity to allergies.

**Diets deficient in Omega 3 fatty acids increase the risk of allergies and dermatitis.**

In both human and veterinary medicine, many skin conditions including flea-allergy dermatitis, Queensland itch and allergic dermatitis improve with Omega 3 oil supplements. Using high oil feeds offers enormous benefits for temperament, heat load and performance. Oil provides a cool and steady supply of energy and delay the onset of fatigue.

**TRAVELLING:**

Horses have been shipped from place-to-place for 3500 years. Over this time, we have learnt much about the stresses of travel. The risk of 'shippin fever' or pneumonia is related to inability to lower the head for long periods, ammonia fumes from urine and manure, dust in feeds and car exhaust.

'Shipping colic' is linked to impactions from reduced water intake, grain in the diet, changes in diet or feed quality and low roughage intake.

Horses prefer to travel backwards and if untethered, most will turn to face the rear. This results in a lower head carriage, a more relaxed posture, a 35% reduction in moving and changing position, less sweating, lower heart rate and more normal manure consistency.

**STOMACH ULCERS AND RESPIRATORY HEALTH:**

**The risk of stomach ulcers increases when show horses are stabled and fed raw grains.**

Horses eat slower, chew for longer and produce more saliva when fed steam-extruded nuts. Longer feeding time reduces wood chewing, gastric ulcers, choke and colic. Steam-extruded nuts are low density, gentle on teeth and can be readily softened to a warm mash in winter, at days-end after competition or for horses with aging mouths. Being clean and dust-free, steam-extruded feeds reduce respiratory irritation and the low moisture level (8% compared to grains which are 11 to 13.5%) reduces mould spores which are known to irritate the respiratory system.

**CALM TREATMENT:**

Of equal importance is a calm, confident temperament and the ability to handle the demands of travelling and showing. The dietary factors which may adversely affect temperament are listed below.

<b>DIETARY FACTORS WHICH MAY AFFECT TEMPERAMENT &amp; BEHAVIOR</b>	
<b>NUTRIENT</b>	<b>EFFECTS</b>
Excess protein	Excess ammonia irritates nervous system, causing fidgety behavior
Pellets	Eaten rapidly, short feeding time can increase bedding & wood-chewing
Magnesium deficiency	Restlessness
B-vitamin deficiency	Nervous, unsettled behavior
Unprocessed grain	Can cause wide swings in blood glucose, insulin & cortisol levels
Large meals twice daily	Fluctuating blood sugar levels can cause changes in temperament

Oils	Slow, steady release of energy; glucose sparing affect delays fatigue
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For further information on feeding horses please fill in our ***nutrition advice form***.

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